121 In other publications (2) we have brought up the question of
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> 2. On dual organization in South America, América Indígena, Mexico, 1944. On certain structural similarities of the Chibcha and Nambikwara languages. Congrès International des Américanistes, Paris, 1947.

knowing if the type of life of the Nambikwara, apparently very primitive, does or does not constitute the authentic vestige of ancient conditions. Considered in the present, their level of culture is certainly very low. They live naked, especially the women, who only wear a thin string of buriti beads around the waist, some earrings, necklaces worn around the neck or looped over the shoulder, [14] bracelets made from the tail of the large armadillo, and, sometimes, some narrow bands of cotton woven by their husbands, or some buriti straw, tightly bound around the biceps, and wooden pins. Besides the same ornaments, the men sometimes put on a sort of straw pompom, fastened to the waist above the sex organs, and smaller ones, attached to cotton bracelets; on the other hand, they do not wear shell bracelets. The complete ignorance of the hammock and the Nambikwara
[513] custom of sleeping on the ground (or, more rarely, on long strips of the bark of the palm tree paxiuba) has intrigued ethnologists for a long time. This sentiment is shared by neighboring tribes, and the
[101] Paresi, mentioning this peculiarity, call the Nambikwara Uaikoakoré, "those who sleep on the ground."

221 The Nambikwara year must be divided into two distinct periods. During the rainy season (from October to March), each group settles on some small elevation rising above the course of some stream. The Indians then construct crude huts with curious variations in form and materials. They burn clearings in the approaches to the forests which
221 occupy the humid valley floor, and there they plant and cultivate
241 gardens principally with the starch-yielding plants of the manihot genus (sweet and bitter) and tobacco, sometimes some peas, cotton, peanuts, and calabash (Lagenaria sp.). They grate the yucca (manioc) on planks covered with the sharp bark of the palm tree, they press it with the aid of a piece of twisted bark. The garden produce furnishes food resources sufficient for part of the sedentary period, and even of use later: the Nambikwara preserve the yucca by burying the residue of the grated pulp in the ground.

221 At the arrival of the dry season, they abandon the village, or rather the site of temporary residence, and each group "breaks up," if one can say that, into several nomadic bands. For about seven

[End Plate I]

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1. Characteristic aspect of the savannah during the dry season. 2. A native garden in the middle of the gallery forest. 3. Travelling.

2: Lévi-Strauss E-5 (1938-1939)1948
SP17 Nambicuara SP17

When rains come, the *Nambicuara* settle in temporary villages, and the men open circular gardens in the gallery forest by burning and felling the trees with stone (now steel) axes. They till the soil with pointed sticks and raise both bitter and sweet manioc, several kinds of maize which are different from those of their more civilized neighbors (Roquette-Pinto, 1938, p. 297 n.), beans, gourds, cotton, urucú, and a variety of small tobacco with tiny leaves. Despite the difficulty of fishing in the deep, clear tributaries of the Juruena River, they have moderate success using fish arrows, basket traps, and a drug made of a vine.

Food preparation.—Game is usually only half cooked in hot ashes, but it is sometimes smoked on rectangular or pyramidal babracots. Manioc is grated on thorns of the catizal palm (*Iriartea* sp.) imbedded in palm wood plants. To remove the poisonous juice of bitter manioc, the pulp is either squeezed in a strip of bark twisted spirally or buried for several days to allow the juice to drain off. Balls of the pulp are then sun-dried and packed in leaves in baskets or buried at marked places. In times of scarcity, perhaps months later, the half-rotten balls are made into flat cakes, hastily cooked in hot ashes, and eaten.

The *Nambicuara* cannot bear to eat salt, which they do not know how to prepare, or pepper, which they do not cultivate. Even hot food is cooled with water before it is eaten. Wild honey, too, is diluted with water. The only condiment is a variety of cumarú bean which has a strong, bitter almond taste. It is boiled in pots; afterward the liquid is drunk and the beans are mixed with food, especially with grasshoppers crushed in mortars. Armadillo meat is often ground with maize flour.

Domestic animals and pets.—The *Nambicuara* have many pets, especially monkeys, coatis, parrots, and birds. Domesticated animals were unknown until the Rondón Commission introduced chickens and dogs. Although at first extremely afraid of dogs, the Indians quickly adopted them and treated them with the same deep affection they show all their tame animals. Even now they are terrified by oxen seen at telegraph stations, and call them by the name given to the deadly spirits of the water and the bush. They do, however, hunt and eat horses and mules as if they were wild game.

HOUSES

The surprising variety of house types suggests recent borrowing from neighboring tribes. The *Nambicuara*, like the *Siriono*, may formerly have lacked houses entirely. During most of the year, even at the present time, they build only scanty temporary shelters for a single night. These consist of branches of palms stuck into holes dug in the sand to form a half or quarter circle on the side from which the sun, the wind, or rain are expected (pl. 37, *center, left*). Each individual family builds its own

3: Lévi-Strauss E-5 (1938-1939) 1944
SP17 Nambicuara SP17

Gardening exists only during the rainy season and does not free the Nambikuara from wandering during the seven months of the dry season, looking for wild roots, fruits and seeds, small animals such as lizards, snakes, bats, spiders and grasshoppers and, generally speaking, anything which may prevent them from starving. As a matter of fact, their geographical surroundings, which are located in the northwestern part of the state of Mato Grosso and include the headwaters of the Tapajos, Rio Roosevelt and Rio Gi-Parana, consist of a desolated savanna with few vegetal resources and still less game.

Had I approached my subject from a point of view other than the one outlined above, I could not have avoided a long discussion in South American cultural history, aimed at clearing up this apparent primitiveness, on the question as to whether the survival of early conditions of life in South America is genuine or whether we should consider it as a more recent—although undoubtedly pre-columbian—result of culture clashes and processes of acculturation. Whatever the answer may be, it cannot substantially change our problem: whether tarriant or recessive, the Nambikuara society functions, in the present, as one of the simplest forms of human society to be conceived. We shall not seek information from the particular history which kept them in their exceptionally crude organization or brought them back to it. We shall only look at the experiment in social anthropology which they now enact under our very eyes.

This holds especially true in respect to their social and political life. For if we do not know what was the material culture of the Nambikuara forty years ago (they were discovered only in 1907), we do know that their numbers became tremendously reduced after their contact with white civilization. General (then Colonel) Candido Mariano da Silva Rondon, who discovered and studied them, first stated that their number was about 20,000. This was around 1915. I take this figure as greatly exaggerated, but even if reduced by one half, it considerably exceeds the present number which is hardly more than 2,000. Epidemics have taken care of the difference. What does this mean, from the point of view of our study? During the dry season, the Nambikuara live in nomadic bands, each one under the leadership of a chief, who, during the sedentary life of the rainy months, may be either a village chief or a person of position. General Rondon wrote that, at the time he was exploring the country, it was not rare to see bands averaging two or three hundred individuals. Now, sixty or seventy

4: Oberg E-5 (1949)1953
SP17 Nambicuara SP17

Vilhena. These Indian Posts have had only limited success in attracting the Nambicuara, because the region is agriculturally so poor that it is difficult to grow enough food to maintain a settled population, and at present the Indians only visit these posts occasionally.

Intensive missionary activity among the Nambicuara began when two American Protestant missionaries, Arthur F. Tylee and William R. Henricks, established a mission station at Juruena in 1925. In October 1930, the Reverend Mr. Tylee, his baby daughter, Miss Mildred Kratz (nurse), and three Brazilians employed by the mission were killed by the Nambicuara belonging to Julio's band. Mrs. Tylee, although struck three or four times on the head while rushing to her child who was still in bed, was only stunned and came to after the Indians had left. One Brazilian hired man escaped to get help from the telegraph station. Some years later new Protestant missions were established at Campos Novos (Nambicuaras) and at Utiarity. At present only the mission station at Utiarity is in operation.

The Jesuits established a mission at Juruena about 1930, but in 1940 moved it to its present site in Utiarity. Today both the Protestant and Catholic missions are, therefore, located in Utiarity, which not only is connected by truck road to Cuiabá but is also centrally located. To the east and south are the remnants of the Paressí, and to the north, the Iranxe, who, although not speaking the Paressí language, appear to belong to the Arawak-speaking family. Further northward are tribes with which the missionaries are planning to make contacts. To the west are the Nambicuara. Although officially on friendly terms there is considerable tension between the Protestant and Catholic missionaries, as they are competing for the allegiance of the same Indian population.

ECONOMY

Although the Nambicuara practice a shifting agriculture, their dependence upon the wild animal and plant life of the region is so extensive that they might well be classed as nomadic hunters and collectors. The semiarid plateau provides little in the way of agricultural land, game, or fish. What little farming is practiced is carried on in the narrow "galeria" forests of the headwater streams.

[p. 87 (A)]

361 clude at least one stretch of river and the "galeria"
621 forest which lines its banks. Except during the planting and harvesting season the members of the band are on the move up and down the narrow confines of the territory. Within this hunting territory they have camping places rather than villages. A semipermanent camp site where fields are cultivated for 2 or 3 years is known as *sinciésu*. Any place where the band or a family may stop overnight is known as *siénsu*. At present the
342 Waklítisu band has one house (*sísu*) at the place
621 where it is farming. The entire band occupies the house, each family having its own fire around
[513] which it sleeps at night. The unmarried men gather around another fire. Julio informed me that their house is rectangular with stake walls and a gable roof covered with sapé thatch. Some years ago when the band was larger he said they occupied a different place on which they built three houses. These houses were built by placing a series of saplings into the ground to form an oval. The tops were then fastened to a ridge pole, the framework being covered with sapé or palm fronds. A smaller beehive-shaped house is made
[343 in the same way. Houses of this type are from
346] 6 to 10 feet high. Near the living house they build a small flute hut (*sinedónklesu*) and, when the occasion demands, a shaman's hut (*sihdentsu*).

342 If the weather is cold while they are out hunting the band or the family may build a temporary brush hut for the night. Sometimes only a windbreak (*siotdutsi*) is considered sufficient. On warm nights during the dry season the group camps under a tree. In favorite hunting places the same camp site will be used repeatedly.
[241] When the soil around the permanent camp site or village becomes exhausted, fields are cleared some distance away and small huts are put up for the workers. As the distance increases the old camp site is eventually abandoned and a new camp site is established.

352 As the Nambicuara do not use hammocks,
beds, or seats, there is not much in the way of
415 furniture in their shelters. Utensils are restricted to a few gourd vessels, tin cans, burden baskets and small flat baskets, fire fans, bows and arrows,
[482 and tools used by men. When they move, these
462] articles are placed in burden baskets which are carried by the women. The Waklítisu do not

Xingú, the Nambicuara timbó fishing appears very elementary. The small fish are wrapped in leaves and placed in hot ashes until cooked. Large fish are broiled on a babracot. The Nambicuara also claim that they fish at night with torches along the river banks. This method may have been taken over from the Brazilians.

AGRICULTURE

The principal food crops grown by the Nambicuara are bitter manioc, sweetpotatoes, arrowroot, carâ, maize, beans, and peanuts. To this list we must add such nonfood crops as cotton, tobacco, urucú, and gourds. The scientific and native names of these plants are listed in Appendix 1.[1] In more recent times they are known to produce sweet manioc and sugarcane. The dependence upon food crops in relation to game, fish, and wild food plants is difficult to gage. The statements of missionaries, however, appear to indicate that cultivated crops do not provide a year-round food supply and may actually play a minor role as compared with dependence upon noncultivated resources.

Farming is done on the slopes of the "galeria" forests, where, as we have seen, they also do most of their hunting and collecting. The Waklîtisu band clears and cultivates a single field and, as we have said, lives in a single house while thus occupied. In the past the field (*haîtsu*) was cleared with a stone ax (*stúnsu*) and a wooden club (*hukwénisu*). Today steel axes and machetes are used, but the method of planting is still the same. The efficiency of steel tools over stone axes and wooden clubs is indicated by the statement that in the past when a new field had to be cleared the people had to work during most of the wet season in order to fell the trees, a task which they now perform in May and June.

Formerly the light undergrowth was pulled out by hand and the bushes and saplings were beaten down with the wooden club. The Nambicuara had a unique way of felling trees. Starting near the bottom of the slope, they cut all the small trees part way through, then selected a number of large trees as kingpins. When these large trees were felled they knocked down the smaller trees below them. This was continued until they had a circular clearing of the required size on the slope. Today the clearing is done with axes and knives,

[1] [Cat. 116, pp. 121-126.—Pan.] [p. 90 (B)]

●241 but the method of felling is the same. All clearing has to be completed by the end of June to permit the felled trees to dry.

In late August, when the cicada begins to sing and the first thunder is heard, the Nambicuara return to undertake their planting activities. At a given signal, men with lighted bunches of dry grass set fire to dry trees and bushes all around the edges of the field. The rest of the people are concentrated at the river's edge at the bottom of the slope, and as animals, such as rats, lizards, and snakes, flee toward the water they kill them. [222] After the fires have died down the people go through the field collecting grubs, insects, and whatever else that is edible.

Among the stumps and unburnt logs the Nambicuara hoe up hills about 3 feet in diameter into which they stick 6 or 7 pieces of last season's manioc stems, each about 10 inches long. These hills are made about 5 or 6 feet apart. Formerly they used a digging stick (*kadikádsu*) but today the metal hoe (*isakúlusu*) is used. Bitter manioc (*walídnsu*) is their most important crop.

After the rains have begun and the manioc is several inches high, they begin to plant maize (*kaydítsu*) of which the Nambicuara have several varieties. Maize is planted between the manioc hills by making a hole in the ground with a digging stick into which 2 seeds are dropped. As the holes are about 6 inches deep, the seeds are not covered. Whether this is to protect the seeds from birds is not clear.

When the maize has grown tall enough to provide shade they plant beans (*kwɋ'su*), sweetpotatoes (*wísu*), and tobacco (*ítsu*). The bean which the Nambicuara grow looks like a large red kidney bean and has a tough skin. Beans are planted one seed to a shallow hole and covered. Sweetpotatoes are planted by placing cuttings in shallow trenches near logs and stumps. When 249 planting tobacco a man places a handful of seeds on a leaf, climbs onto a high stump, and blows the fine seeds so that they scatter over the field. They weed the field only once when the maize is 248 about a foot or two in height. Cotton is planted in the field but urucú bushes and gourds are planted near the houses. After the planting is finished and the field is growing well the people leave on their continuous rounds of hunting, fishing, and collecting.

[P. 91 (A)]

252 placed on a platform under which a fire is lighted. In this manner large quantities of *kinokáyere* can be prepared in one day.

When a woman gets ready to bake a manioc cake she pushes the hot coals and burning wood to one side and pats down the hot bed of the fire with a flat piece of wood. She then breaks off pieces from a dried manioc loaf and crumbles them over the bed of the fire by rubbing them in her hands. When she has crumbled up enough dry manioc, she pats down the flour to form a round, flat cake about 10 inches in diameter and from 1 to 2 inches in thickness. She covers the cake first with hot ashes and then hot coals. After one-half hour she uncovers her oven to find a brown cake covered with ashes and cinders. This sour, dirty, gritty product in no way compares with the fine-textured, sweet *menyú* of the Camayurá, the meal for which is prepared by crushing the dry ball in a mortar, then sifted to remove the rough fibers, after which the flour is dampened and baked on a pottery baking plate. Sometimes the whole manioc loaf is placed in the fire, and as it bakes the Nambicuara begin to break off pieces from the outside. For ceremonial purposes they bake cakes about 2 feet in diameter.

● 241 Toward the end of the rains in April and May the Nambicuara return to their fields to enjoy the fresh garden products. The harvest is inaugurated with a harvest ceremony (*hoikónakíduzu*). [262] [252] Fresh maize, peanuts, and sweetpotatoes are roasted, manioc cakes are prepared, and, if possible, manioc juice is boiled to make chicha. These garden products, along with meat, supply the [534] food for the feast, which lasts for several days. The sacred flutes (*wainkú*) are played in the flute hut, the spirits of the ancestors are present, and food and drink are offered to them.

221 The subsistence activities of the Nambicuara are, thus, closely associated with the annual cycle of growth in which agriculture forms but a part. The dependence of the Nambicuara upon the wild products of the forest and plateau are much more complex than has been indicated. They supplied long lists of names of plants, insects, and animals for which no Portuguese names could be found. A full understanding of their economic dependence upon the environment would come only by someone following a band of Nambicuara throughout the year to observe the complete annual cycle of

757 patient. The juice of a certain plant is put into the cavities of teeth to stop toothache. The juice of boiled roots and leaves are taken internally for stomach disorders. One day I observed a woman pressing her foot over her husband's forehead as he lay on the ground. The heel was placed over the eye and she exerted considerable pressure. She was doing this to cure her husband's headache. These nonmagical practices are known to everyone. Some herbal medicines, however, are known only to the shamans and are used under the directions of the *anâses*.

778 The sacred flutes (*wdiwiku*) are associated with
534 *ekkkdilisu*, the culture hero, agriculture, and chieftainship. As these flutes are similar in appearance to the sacred flutes of the Paressí, among whom they have great significance, it is possible that the Nambicuara obtained them originally from the Paressí. The flutes are about 2 feet long with four holes at the lower end and are made from a jointless piece of bamboo. When the band settles down near their manioc fields they build a special hut for the flutes, but when they are wandering around, the flutes are hidden in the
[784] woods. Women are not permitted to see the flutes, and if one should accidently see them her stomach would swell and she would become ill. But what appears more important is the fact that the flutes poison people who do not treat them well. Yet, as only the chief and the head shamans play them this would mean that the flutes are the symbols of authority representing the men in whom power is invested. The flutes, four of which should be in every band, do not represent a spirit but appear to be more like fetishes. Boiled manioc juice is poured into them and they are offered maize and broiled meat.

● 241 The *wdiwiku* are played after the fields have been
775 planted and again at harvest time. After planting, the men gather into the flute hut and play
533 the flutes and sing the *wdiwiku*. The ghosts of the dead participate and, along with the flutes, are offered food and drink. At harvest time another ceremony called *Anikwakidutu* is performed at night during which the flutes are played and special songs are sung. The following day the whole band participates in a dance. The ghosts also take part in this ceremony.

534 In addition to the *wdiwiku* flutes, the Nambicuara have a smaller four-stop bamboo flute called

APPENDIX 1

RESOURCES OF THE NAMBICUARA

AGRICULTURAL FOOD PLANTS

Portuguese name	English name	Scientific name	Nambicuara name
Annatto	Pawpaw	*Arabis hypogaea*	Wilitsu.
Arrowroot	Arrowroot	*Maranta arundinacea*	Tahlum.
Banana	Pineapple	*Ipomoea batatas*	Wat.
Cará		*Dioscorea* sp.	Ha'lim.
Fava	Bean	*Phaseolus lunatus*	Kwi'in.
Manihot bravo	Manioc	*Manihot esculenta*	Wahlum.
Milho	Maize	*Zea mays*	Kayéim.

AGRICULTURAL NONFOOD PLANTS

Algodão	Cotton	*Gossypium* sp.	Kéum.
Fumo	Tobacco	*Nicotiana tabacum*	S'im.
Cabaça	Gourd	*Lagenaria clavaria*	Kal'l'amum.
Urucú		*Bixa orellana*	D'ualum.

WILD FOOD PLANTS (FRUITS)

Araçá	Thevetia	*Anona crassa*?	Kalilu.
Bacuparí		*Ochipaga multiflora*	Walwalilim.
Bacuri		*Couroupita bacuri, Rhizobium*	Wilum.
Bacuriova		*Anacardia orientalia*	Kalilulim.
Buriti (palm)		*Mauritia flexuosa; M. vinifera*	Hiwu.
Cajá-do-campo	Savanna cashew	*Anacardium nanum*	S'iwu.
Cajá-do-mato	Forest cashew	*Anacardium gigantum*	Dwalilim.
Cambará		*Diptera alcrata*	Nalglim.
Feijo-de-bolo		*Solanum lycocarpum*	K'dalilim.
Jabuticabeira	Jabuticaba tree	*Eugenia cauliflora*	Alilulim.
Mangabeira	Mangaba tree	*Hancornia speciosa*	Hahlalglim.
Marmeleiro-do-campo	Quince tree	*Magnonna braziliensis*	Tlalalu.
Marmeleiro-do-espinho	...do.	...do.	Kal'l'ilim.
Marmeleiro	...do.	...do.	Wat'lilim.
Marmeleiro	...do.	...do.	Kak'lilim.
Pupunheira	Pupú tree	*Guilielma braziliensis*	A'lwu.
Frutas brancas de arbusto			Alilwyum.

WILD PLANTS USED IN MANUFACTURE

Buriti		*Mauritia flexuosa; M. vinifera*	Yilum.
Caraipeira		*Gustavia* sp.	Kalilum.
Cipó		*Philodendron linde*	Kadal.
Flecha-de-mato (Pachpaul)		*Ampomis arguta*	Kak'in.
Imbé		*Imperata brasiliensis, sambucin*	Kalalilum.
Seringueira	Rubber tree	*Hevea brasiliensis*	Wahlilum.

[p. 124]

5:Roquette-Pinto E-4 (no date)1913 SP17 Nambicuara SP17

Abstract.

Little has hitherto been known of the Nhambiquára who inhabit the valley of the Juruena and are spread thence to the rivers Sararé and Galéra, affluents of the Guaporé. In 1909, an official Brazilian explorer, Colonel Rondon, during his journey in the interior of Matto Grosso, was able to enter into friendly relations with them, collecting ethnological objects, and gathering information of their life, geographical distribution and customs, with those also of the Parecí.

The Parecí give the names Uáikoákoré and Quihaniéré to the Nhambiquára, thus dividing them into two groups. Individuals of the latter group have darker skins and are more warlike. Colonel Rondon appears to have cleared up the meaning of the name Kabixí, which has been a cause of confusion, as often happens with collective names like Bugre, Tapuya, Guaycurú and others. The dwellers in Villa Bella (Matto Grosso) were accustomed to call Kabixí those Indians whom the Parecí called Uáikoákoré, and who, as now stated, are Nhambiquára. This name of Uáikoákoré is given by the Parecí of the sub-tribes Kaxiniti and Uaimaré of the rivers Arinos, Sacuriá-iná, Tabóra-iná and Timalatiá to their kindred of the Kozárini group who inhabit the upper parts of the Rio Verde, the Juba, Caleçal and Jauxá. The term Kabixí is derogatory, implying an inferior condition.

The Nhambiquára are usually of medium height; they have large teeth, the abdomen rather prominent, muscular thighs, slender legs and well made feet. They perforate the nostrils, the nasal septum and the ear-lobes. Through the holes made in the nose they pass small pieces of wood, and from the ear lobes they hang ornaments made of small beads of coconut. They wear armlets, bracelets, leg ornaments and bead collars made from the fruit of the mbacába. They live by the chase, but also plant maize, yams, potatoes, manioc, and beans. They smoke leaves similar to Brazilian tobacco and do not use hammocks but sleep on the ground, like the Campa-otziri and the Amúsha of the Gran Pajonal.

In the collection made by Colonel Rondon for the National Museum at Rio de Janeiro there is an alimentary paste similar to the Kétshé of the Parecí, made from pounded manioc. The native lewa or bitumen is used with string to fasten arrow points to their shafts. It appears to be a mixture of Ganini and wax, and is preserved in leaves of the Malá-malá palm. It melts at a very low temperature.

To fell trees a stone axe, fixed in a wooden handle by means of cord and bitumen, is used. The Indian who succeeds in felling certain trees with this primitive instrument receives as reward an arara or psittacus feather for a nose-ornament. Such a decoration is usually received for warlike prowess among the natives of Brazil. The bows are large, strong, of red wood and well-polished, with semi-cylindrical transversal section. Those in the Rondon collection vary from 1m. 80 to 2m. 38 in length. To draw an arrow of 50cm. between the larger bow and its string of tucum a traction force of 60 kilos. is necessary, as verified by the dynamometer. There are five types of arrows. They have two musical instruments, one, a double flute made of two pieces of bamboo tied together, the other, two concave disks of calabash, about 8 cm. in diameter, united at the edges by a strip of Malá-malá and bees. The upper disk has three orifices.

[Fig. 18]

241 They subsist chiefly on the produce of husbandry; the development of agriculture in their backward milieu [229] constitutes one of the paradoxical traits of this tribe.

242 As a general rule, it may be said that the Nambicuara eat of everything; unlike some other Indians, they do not shun certain species of animals. A mosquito that lands on their body, a louse, a locust, a small lizard that scampers by--nothing is spared.

[250] Some of them carry sticks to kill any snakes they may encounter; they roast them in the embers and eat the delicacy with pleasure.

After roasting their catch, they discard only the stomach.

At the camp on the Primavera River, whenever one of them was hungry he would run off into the bush and return with a live calango [a small lizard]; after beating the head of the little animal against a piece of wood [230] he would throw it into the hot ashes. Later he would tear open the animal's abdomen with his nails, remove the stomach and enjoy the rest. On another occasion, the Indians caught an armadillo and killed it by twisting its neck.

In hunting and fishing they use arrows that will be described later.

252 They prepare the eggs of the wild duck (Cairina moschata,
253 L.) by nestling them in shallow depressions in the embers after
[255] turning them on a diminutive spit stuck through a small hole punched in the shell.

The meat of large game--deer, paca (Coelogenis paca),
[225] capybara (Hydrochoerus capybara)--is utilized only after it has been pounded in a mortar or beaten between two pieces of wood.

[Fig. 19]

244 They cut off large pieces with their nails, with their teeth, and sometimes with knives of wood or bamboo. No sooner have they gulped down what is in their mouth than they suck their fingers, clucking their tongue noisily.

251 The Tagnani are familiar with the preserving properties of smoke; the meat we handed out to them was not all eaten on the same day. They hung the remnants on the barbecue [moquém].

264 The children partake of a meal immediately; the women eat later... whatever is left over, if there is a leftover. This, by the way, is the rule even among civilized Indians... But in general, if there is plenty, each helps himself to whatever there is, when he wishes and as he wishes; the food belongs to all.

262 [236] They skillfully remove the gall bladder from the liver of the animals they devour, but they do not have a special name for it.

[252] Aarú is a cake which the Cocozu prepare by pounding up a whole roasted armadillo in a mortar until its bones are completely mashed, and then mixing it with manioc dough in the form of beiju.

[225] An upland rat (Scapteromys guambiquarae, Miranda Ribeiro), which the Parecsi call cólori, is prized by the Nambicuara as a delicacy. They call it arantacú.

241 They gather and utilize the produce of their husbandry from day to day. They have no special harvesting time, and no stores or surpluses except for the tobacco which they keep between two sticks hanging from the ceiling thatch.

251 There is always manioc dough in the house; it is the Nambicuara bread, which they eat with all their other foods. They keep the dough in large baskets lined with pacova (1) leaves.

1. A kind of banana. (Ed.)

[237] Leftover honey is kept in the gourd; it does not reach fermentation because the desire [to drink it] soon revives in some Indian...

261 We did not see any rite connected with food; but the soldier
[115] Gouveia, who was held prisoner in a Nambicuara village for six months in 1911, witnessed such a ceremony. The Indians of that village (which was named Urutau) had killed a large tapir. (1) This was
[118]

1. Tapirus americanus, fairly abundant along the rivers of the area. Hard to catch because very wary.

[the pretext for] a feast. They dragged the animal to the village plaza. Then the men went off into the bush to gather branches with

[945] The Tagnani also use a kind of fish trap.

A rare type of blunt arrow is designed for the capture of birds which serve as playmates to Nambicuara children.

The birds are felled by the impact and caught easily. Some become used to their cruel captivity; a woodpecker (Colaptes campestris, Vieil) was occasionally imprisoned by a boy under a gourd. No sooner did the child remove the cup than the bird, instead of flying away, would perch upon him. It is true that the Indian nourishes his domesticated birds very well: he constantly feeds them from his own mouth, gently gorging them.

[Fig. 59]

To our intense surprise, as the cephalic measurements of an Anunse woman were being taken, a baby rat fell from the nape of her neck where it had apparently been living coxily, hiding in her hair as in the grass where it was born.

Doves (Chamepelia talpacoti), young vultures (Sarcoramphus papa, Catharista atratus brasiliensis, Bonap), monkeys and small owls are also domesticated in the Serra do Norte.

Before the days of the Rondon Commission, the Nambicuara were not familiar with the ox, the mule or the dog. They are still afraid of the ox because of its horns; they have a liking for the donkey, whose meat they find similar to that of the tapir.

[946] They are now good friends of the dog, which at first frightened them greatly; they steal a few whenever they can, and these dogs quickly take a fancy to [the Indians] because they are so well fed. In the master's eating gourd there is always room for the dog's muzzle.

They carry their children in a strap slung over the shoulder and across the chest, which the Cocozu make with straw and the others with cotton.

They take along everything they own on the shortest excursions; this is a nomadic habit surviving among a nearly sedentary people.

A population as large as that of the Serra do Norte would be unable to subsist exclusively on hunting and fishing. The Indians would be forced to travel far and wide in search of food; they would have been annihilated long ago, or else deprived of those characteristics which only their isolation could maintain.

241 It was the practice of agriculture--and we do not know where they borrowed it, if it did not arise among them spontaneously--which enabled them to continue living in the stone age until today.

By cultivating the rich lands of the Juruena Valley and the Serra do Norte and entrusting their sustenance to the soil of the virgin Amazon forests, the Nambicuara were able to continue living until now in that relatively restricted environment. This paradoxical effect of agriculture may not yet have been found elsewhere in so distinctive a form; and because they were forced to subsist by cultivating the earth, they perfected this industry while remaining in a very elementary stage of civilization. Wholly isolated, without any knowledge of white men or their domestic animals [247] such as the dog, the Indians of the Serra do Norte became excellent farmers.

Their plots are always evenly circular. Large open spaces are frequently found in the forest; they are artificial fields, old Nambicuara plots.

The Indians use fire to clear these plots after cutting down the trees, which until now they felled with stone axes. In order to fell a large tree, several axemen gather around it; and the wood, gnawed by the stone, yields sooner than expected. The strength of the axe handle is truly remarkable.

[Fig. 22]

A pointed stick is used to make holes for [planting] seeds.

Maize and manioc are the principal products of Nambicuara agriculture. Both belong to the same species cultivated among us. Maize is of the variety known as white maize or sabóró; the manioc [246] has unusual nutritive value. In fact, the manioc cultivated by the Tagnani is the best I have seen, low in fiber content and very rich in starch.

[248] Surely the root does not owe its excellent qualities to the imperfect cultivation of the Indians, but to the very fertile land where it is planted.

The great ethnographic question raised by aboriginal agriculture and brought into sharp focus by Martius still remains unanswered.

Neither maize nor manioc have been found growing wild in the jungle. Either these plants came from elsewhere with the Indians,

● 24 or else they were derived from other species which grow wild in very different forms, disguised in various ways.

In any case, we found an isolated tribe in the stone age, subsisting on agriculture and cultivating maize (1) and manioc identical to ours.

1. The Nambicuara corn cobs which are to be found at the National Museum are of three kinds, each solid in color, fully kernelled, large, and of first quality. They deserve the attention of our geneticists, especially in view of the fact that maize is a heterogamous plant subject to the hazards of cross-fertilization. . . . . Nambicuara maize must be of pre-Columbian Peruvian origin . . . .

The secret of [its] selectivity must be the cultivation of each variety in an "aboriginal field" entirely isolated from the others by stretches of jungle; the term "aboriginal field" was given by Gen. Rondon to those clearings made in the jungle by the Indians for purposes of cultivation.

It would be advisable to study aboriginal agriculture thoroughly, as Hoehne already has pointed out, for the standard products obtained [by the Indians] prove that they possess keen genetic intuition. (A. J. deS.)

At the Fourth Maize Fair (Rio, 1918) many corn cobs cultivated in Rondonia were exhibited. It was concluded that Nambicuara maize should be considered autochtonous, for it displays hues entirely unknown to cultivators of the civilized world. Although the external coloring varies, the albumen of Rondonia maize is invariably very soft and white.

241 [Plates p. 254]

[249] Yet a wild form of manioc has been found (Manihot utilissimo, Pohl); if not the very species we use, at least one of the same genus. But maize?

Where on the surface of the earth does maize exist in a wild state except for the tunicated Zea mais which is sometimes considered to be the ancestor of the modern species?

What unveiling of mysteries, if this question were to be answered!

Some Tagnani who were watching the herdsman João Lucas weed a small plot in Três Buritis began to laugh at him, indicating that it would be better to root up the weeds; the hoe severed the stems but left in the roots, and the plants would grow up again. When the Nambicuara weed, they pull out everything that is not useful. Their plots are always clean.

Their tobacco is the Nicotiana that grows wild in their mountains; it may not properly be said that urucu and cotton are cultivated: they are planted and utilized. Some large beans of various kinds de-
278 241 serve mention. [250] They are to be found in the Indians' baskets along with many other plants; but we never saw an Indian eating them or making any use of them. Pending further research, I am of the opinion that they are saved for medicinal undertakings carried out in secret by old men and women. The same may be said of the castor oil plant (Ricinus communis), which is definitely adventitious.

[Fig. 39]

415 The spools of cotton fiber that await spinning and the seeds saved for future use are kept out of the weather, dust and rain in bags made of straw or pacova leaves.

[Fig. 40]

759 It seemed to us that medicine was not exercised by any special segment of society. They all take part in the treatment of certain diseases; in serious cases, an experienced elder takes over.

752 Wounds are dressed with straw fibers [coated] with certain resins (jatobá). Burns are treated with cold water. Fractures and dislocations are reduced haphazardly.

372 They make fire with mastic resin sticks, the tips of which are wrapped in straw to protect them from the rain.

[Fig. 63]

241 415 Their plots are worked with pointed sticks. The seeds of urucu, gourd plants (Lagenaria) and cotton are kept in leaf containers.

275 824 Medicinal fruit (Solanum mammosum) is also saved, as well as roots, leaves, etc.

[Fig. 31]

386 The collection contains two samples of dyes: a paste of urucu and fat, sweetly scented, which the women use to paint their body after the bath (huduhukaidi); and a variety of red ocher. [279]

248 Cotton (1) is represented by seeds (rim de boi variety) in leaf

[[71]]

1. According to the studies of Fa. Schmidt and Nordenskjöld (concerning hammocks), cotton reached Brazil from the Andes and was cultivated mostly by the Tupian Indians in the midst of the Amazon jungle. It is used less extensively among the Arawakan Indians. This distribution, due in part to the needs of the plant, explains its presence among the Nambicuara, who are located at the extreme west of the plateau. (R. L.)

[203 256] containers; cotton thread (kondzú) from a spindle (gdaretatú); skeins [855] of spun cotton; cotton fabric (sareguêzê--strap used to carry children). The spindle is made of a palm splinter imbedded in a round [283] potsherd.

[Fig. 64]

415 824 Kateçú are fruits of the Lagenaria genus used as containers and storage vessels. Some hold crudely chopped tobacco and are stoppled with a corn cob, a method frequently used by the frontiersmen.

[See fig. ...(28) p. 308.]